AMENDMENTS TO THE CLAIMS

Please amend the claims as follows.

1. (Currently Amended) A method for determination of the position (x, y) of at least one reflection point (R_{1-2}) on the surface of an obstruction, comprising the following steps:

   calculation of a first distance (r_1) between the reflection point and a first position (x_1) of a distance measurement apparatus, from a time period between transmission of a first transmitted signal from the distance measurement apparatus at the position (x_1) to the obstruction and reception of a received signal as part of the transmitted signal reflected on the obstruction;

   characterized by calculation of a second distance (r_2) of the reflection point with respect to a second position (x_2) of the distance measurement apparatus analogously to the calculation of the first distance (r_1); and calculation of the position (x, y) of the reflection point (R_{1-2}) with the aid of the triangulation method from a first value pair (x_1, r_1), comprising the first position (x_1) of the distance measurement apparatus and the first distance (r_1) and a second value pair (x_2, r_2), comprising the second position (x_2) of the distance measurement apparatus and the second distance (r_2);

   characterized in that the x coordinate (x) of the position of the reflection point (R_{1-2}) is calculated using the following equation (1):

$$x = \frac{r_2^2 - r_1^2 - x_2^2 + x_1^2}{2 * (x_1 - x_2)} \qquad \underline{(1)}$$

   x_1 represents the first position of the distance measurement apparatus (100);

   x_2 represents the second position of the distance measurement apparatus (100);

   r_1 represents the first distance of the reflection point (R_{1-2});

   r_2 represents the second distance of the reflection point (R_{1-2}); and

   outputting the position (x, y) calculated.

2. (Canceled)

3. (Currently Amended) The method as claimed in claim ~~2~~ 1, characterized in that the calculated x coordinate (x) of the position of the reflection point (R_{1-2}) is rejected if the

2

magnitude of the difference between the x coordinate (x) of the position of the reflection point (R_{1-2}) and the x coordinate of the first or second position (x_1, x_2) of the distance measurement apparatus is less than a predetermined Δx threshold value.

4. (Currently Amended) ~~The method as claimed in claim 1,~~ A method for determination of the position (x, y) of at least one reflection point (R_{1-2}) on the surface of an obstruction, comprising the following steps:

    calculation of a first distance (r_1) between the reflection point and a first position (x_1) of a distance measurement apparatus, from a time period between transmission of a first transmitted signal from the distance measurement apparatus at the position (x_1) to the obstruction and reception of a received signal as part of the transmitted signal reflected on the obstruction;

    characterized by calculation of a second distance (r_2) of the reflection point with respect to a second position (x_2) of the distance measurement apparatus analogously to the calculation of the first distance (r_1); and calculation of the position (x, y) of the reflection point (R_{1-2}) with the aid of the triangulation method from a first value pair (x_1, r_1), comprising the first position (x_1) of the distance measurement apparatus and the first distance (r_1) and a second value pair (x_2, r_2), comprising the second position (x_2) of the distance measurement apparatus and the second distance (r_2);

    characterized in that the y coordinate (y) of the position of the reflection point is calculated using the following equation (2):

$$y \;=\; \sqrt{r_2^2 - \left(x - x_2\right)^2} \qquad (2)$$

    where x represents the x coordinate of the position of the reflection point (R_{1-2});

    x_2 represents the second position of the distance measurement apparatus; and

    r_2 represents the second distance of the reflection point;

and outputting the position (x,y) calculated.

5. (Original) The method as claimed in claim 4, characterized in that the calculated y coordinate (y) of the position of the reflection point (R_{1-2}) is rejected if the magnitude of the difference between the y coordinate (y) of the position of the reflection point (R_{1-2}) and the

first or second distance (r_1, r_2) of the reflection point (R_{1-2}) to the distance measurement apparatus is less than a predetermined Δr threshold value.

6. (Previously Presented) The method as claimed in claim 1, characterized in that the first and the second value pairs (x_1, r_1) (r_1, r_2) are selected in pairs from a large number of value pairs (xi, ri where $i = 1....I$).

7. (Previously Presented) The method as claimed in claim 6, characterized in that the selection of value pairs in pairs from the large number of value pairs and the calculation, based on this, of in each case one position (x, y) of a reflection point (R_{1-2}) is repeated for a large number of differently positioned reflection points on the obstruction.

8. (Previously Presented) The method as claimed in claim 7, characterized in that the selection of the value pairs in pairs from the large number is carried out as required.

9. (Currently Amended) A computer program with a program code <u>stored on a computer readable medium</u> for a distance measurement apparatus, characterized in that the computer program is designed to carry out the method as claimed in claim 1.

10. (Original) A data storage medium characterized by the computer program as claimed in claim 9.

11. (Currently Amended) A distance measurement apparatus for determination of the position (x, y) of at least one reflection point (R_{1-2}) on the surface of an obstruction, comprising:
    a calculation device for calculation of a first distance (r_1) between the reflection point and a first position (x_2) of the distance measurement apparatus from a time period between transmission of a first transmitted signal from the distance measurement apparatus at the position (x_1) to the obstruction and reception of a received signal as part of the transmitted signal reflected on the obstruction;
    characterized in that the calculation device is designed to calculate a second distance (r_2) of the reflection point with respect to a second position (x_2) of the distance measurement apparatus analogously to the calculation of the first distance; and to calculate the position (x, y) of the reflection point (R_{1-2}) with the aid of the triangulation method from a first value pair (x_1, r_1), comprising the first position

4

(x_1) of the distance measurement apparatus and the first distance (r_1) and a second value pair (x_2, r_2), comprising the second position (x_2) of the distance measurement apparatus and the second distance (r_2):

characterized in that the x coordinate (x) of the position of the reflection point (R_{1-2}) is calculated using the following equation (1):

$$x = \frac{r_2^2 - r_1^2 - x_2^2 + x_1^2}{2 * (x_1 - x_2)} \qquad \underline{(1)}$$

x_1 represents the first position of the distance measurement apparatus (100);

x_2 represents the second position of the distance measurement apparatus (100);

r_1 represents the first distance of the reflection point (R_{1-2});

r_2 represents the second distance of the reflection point (R_{1-2}).

12. (Previously Presented) The method as claimed in claim 1, wherein the distance measurement apparatus is an ultrasound distance measurement apparatus.

13. (Previously Presented) The method as claimed in claim 6, wherein the first and the second value pairs (x_1, r_1) (r_1, r_2) are selected in pairs from a large number of value pairs (xi, ri where i = 1....I) after the large number of value pairs (xi, ri) have been smoothed.

14. (Previously Presented) The computer program of claim 9, wherein the distance measurement apparatus is an ultrasound distance measurement apparatus.

15. (Previously Presented) The distance measurement apparatus of claim 11, wherein the distance measurement apparatus is an ultrasound distance measurement apparatus.

16. (New) A distance measurement apparatus for determination of the position (x, y) of at least one reflection point (R_{1-2}) on the surface of an obstruction, comprising:

a calculation device for calculation of a first distance (r_1) between the reflection point and a first position (x_2) of the distance measurement apparatus from a time period between transmission of a first transmitted signal from the distance measurement apparatus at the position (x_1) to the obstruction and reception of a received signal as part of the transmitted signal reflected on the obstruction;

5

characterized in that the calculation device is designed to calculate a second distance (r_2)
of the reflection point with respect to a second position (x_2) of the distance
measurement apparatus analogously to the calculation of the first distance; and to
calculate the position (x, y) of the reflection point (R_{1-2}) with the aid of the
triangulation method from a first value pair (x_1, r_1), comprising the first position
(x_1) of the distance measurement apparatus and the first distance (r_1) and a second
value pair (x_2, r_2), comprising the second position (x_2) of the distance
measurement apparatus and the second distance (r_2);

characterized in that the y coordinate (y) of the position of the reflection point is
calculated using the following equation (2):

$$y \;=\; \sqrt{r_2^2 - (x - x_2)^2} \qquad\qquad (2)$$

where x represents the x coordinate of the position of the reflection point (R_{1-2});

x_2 represents the second position of the distance measurement apparatus; and

r_2 represents the second distance of the reflection point.

17. (New) A computer program with a program code stored on a computer readable medium for
a distance measurement apparatus, characterized in that the computer program is designed to
carry out the method as claimed in claim 4.